

WHAT IS CLAIMED:

1. An information access system for automatically presenting users with information items of interest, comprising:

5 a computer system containing a database of information items available to be presented to users of the system;

at least one access device for enabling users to communicate with the computer system and access any of the items of available information;

means for storing a user profile for each user having access to the available items of information;

10 means for ranking the likely degree of interest for each of the available items of information in accordance with a user profile;

means for presenting the items of information to an access device in order of ranking and enabling a user to retrieve each item;

15 means for enabling the user to indicate that user's interest in each retrieved item of information; and

means for updating the user's profile in response to indications of interest provided by the user.

2. The information access system of claim 1, wherein said ranking means ranks the available items of information for a user on the basis of at least one
20 attribute pertaining to each item of information.

3. The information access system of claim 2, wherein said attribute is the contents of the item of information.

4. The information access system of claim 2, wherein said attribute is the type of data comprising the item of information.

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sub a' 5. The information access system of claim 1, wherein said ranking means ranks the available items of information for a user on the basis of correlation with indications of interest provided by other users.

16. 8. The information access system of claim 5, wherein said correlation is obtained by means of regression analysis of indications of interest provided by said other users.

5. 7. The information access system of claim 1, wherein said ranking means ranks each available item for a user on the basis of a combination of the content of the item and correlation with indications of interest in that item provided by other users.

6. 8. The information access system of claim 7, wherein said ranking is based upon a regression analysis of content-based and correlation-based attributes.

7. 9. The information access system of claim 1, wherein said ranking means ranks the available items of information on the basis of a date associated with each item.

8. 10. The information access system of claim 1, wherein said ranking means utilizes a spreading activation technique to rank the items of information.

9. 11. The information access system of claim 1, wherein said ranking means produces a formula which predicts the interest of a user in an item of information on the basis of at least one of a collection of votes of other users relating to that item of information, a user profile and an attribute related to that item of information.

^{10.}~~12.~~ The information access system of claim ⁹~~11~~, wherein said formula is based on all three of said collection of votes, user profile and attribute.

^{11.}~~13.~~ The information access system of claim ⁹~~11~~, wherein said formula is produced by means of genetic algorithms.

5 ^{12.}~~14.~~ The information access system of claim ⁹~~11~~, wherein said formula is computed in accordance with genetic programming.

^{13.}~~15.~~ The information access system of claim 1, wherein a vector is determined for each item of information and for each user profile, and the ranking of an item of information is based on the similarity of its vector with the vector profile for a given user.

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^{14.}~~16.~~ The information access system of claim 1, wherein said ranking means employs evolutionary programming techniques to predict a user's interest in items of information.

^{23.}~~17.~~ A method for providing information to users of a computer system, comprising the steps of:

15 storing items of information in an unstructured database within the computer system;

determining and storing user profiles for users of the computer system who have access to the items of information;

20 receiving a request from a user for access to the stored information;

determining the user's likely degree of interest in items of information stored in said database, in accordance with that user's profile, and ranking the items of ^{information}~~interest~~ in accordance with their determined degrees of interest; and

displaying the items of information with an indication of their relative

25 rankings.

B. ^{24.}~~18.~~ The method of claim ²³~~17~~ wherein said ⁻²⁰⁻ *items of information* ~~messages~~ are displayed in order of their ranking.

^{25.}~~19.~~ The method of claim ²³~~17~~ wherein the user profiles and the determined degree of interest in items of information are based upon at least one attribute associated with each item of information.

^{26.}~~20.~~ The method of claim ²⁵~~19~~ wherein said attribute is the content of the item of information.

^{27.}~~21.~~ The method of claim ²³~~17~~ further including the steps of selecting an item of information from those which are displayed, providing an indication of the user's actual interest in the selected item of information, and storing the user's indicated interest.

✓ ^{28.}~~22.~~ The method of claim ²³~~21~~ wherein the step of determining a likely degree of interest in an item of information comprises the steps of establishing the correlation between indications provided by a given user and those provided by other users, and determining a prediction value for the item of information based upon said correlation and the other users' indications for that item of information.

^{29.}~~23.~~ The method of claim ²⁸~~22~~ wherein said prediction value is further based upon an attribute associated with the item of information.

^{30.}~~24.~~ The method of claim ²⁹~~23~~ wherein said item of information is the contents of said item of information.

^{31.}~~25.~~ The method of claim ²⁹~~23~~ wherein said item of information is the date on which said item of information was created.

³²26. The method of claim ²³~~17~~⁻²¹⁻ wherein the items of information in said database comprise a plurality of different types of information.

³³27. The method of claim ²³~~17~~ wherein the likely degree of interest is determined for all of the items of information stored in said database in response to receipt of a user's request for access.

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